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EXAMINER
BUTLER, PATRICK NEAL

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1791	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/539,152	MUTH ET AL.	
	Examiner	Art Unit	
	Patrick Butler	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *41,43,44,46-48 and 53-76* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *41,43,44,46-48 and 53-76* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The "flight belt" limitation in line 2 of Claim 60 is not found in the Specification as originally filed. Incorporation of the matter's support (original Claim 28) into the Specification is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 41, 43, 44, 46-48, and 53-76 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. With respect to Claim 41, the limitation "insulation material enters the tunnel furnace having a rectangular cross-sectional profile" in lines 9 and 10 is not supported by the Specification as originally filed. Although the insulation element has an "original rectangular shape" (see

Specification, page 3, lines 15-18), details of the shape immediately prior to the furnace are not recited. Claims 43, 44, 46-48, and 53-76 are rejected via their dependency.

Claims 57, 67, and 68 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to Claim 57, the limitation "the at least one molding element comprises at least two molding elements" makes the claim unclear and self-referential because two molding elements make up each molding element. For purposes of examination, the Examiner assumes "the molding device comprises at least two molding elements" was intended.

With respect to Claims 67 and 68, as the claims depend from a cancelled claim (Claim 49), the Examiner assumes that the intended dependency is from Claim 54.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 41, 44, 46-48, 53-64, 67-70, and 72-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrison et al. (US Patent No. 2,997,096) in view of Gilhart (US Patent No. 3,045,316).

With respect to Claim 41, Morrison teaches making a glass wool pack with an uncured binding agent (a method of producing insulation elements made of mineral

wool containing a curable binder) by delivering a fibrous glass web 16 and an uncured binding agent onto a conveyor 18 (depositing insulation material comprising mineral wool and a curable binder on a conveyor) into and through a curing oven 30 (curing and transporting the insulation material through a tunnel furnace) where it is brought down to its desired thickness from four inches to two inches by the compression conveyor 32 during curing (subjecting sections of the insulation material to controlled compaction in such a manner that at least one permanent impression and/or deformation is produced in the insulation blanket while the insulation blanket is curing during its passage through the tunnel furnace; wherein the insulation material enters the tunnel furnace having a rectangular cross-sectional profile and insulation is impressed and/or deformed to produce a profile during curing) (see fig. 1 and col. 3, lines 5-35 and 60-70).

Morrison does not appear to expressly teach shaping the pack into a non-rectangular cross-sectional profile.

Gilhart teaches making a mineral wool blanket (see title) by forming a blanket of substantially uniform depth layer (wherein the insulation material enters the tunnel furnace having a rectangular cross-sectional profile) (see col. 2, lines 64-69) and then shaping in an oven 30 to interlock the fibers in an imprinted design (the insulation material is impressed and/or deformed to produce a non-rectangular cross-sectional profile during the curing) (see col. 1, line 55 through col. 2, line 4; figs. 1 and 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Gilhart's shaping in an oven to an imprinted design with Morrison's process of making a wool pack in order to provide a pad or blanket with a

configuration to facilitate application to of the material to a surface (see Gilhart, col. 1, lines 11-16).

With respect to Claim 44, the product is a glass wool pack (the mineral wool is glass wool) (see col. 3, lines 5-11).

With respect to Claims 46 and 47, Gilhart teaches forming a rectilinear grid on the blanket (the cross-sectional profile comprises at least one depression or projection; the cross-sectional profile of the insulation element displays two parallel recesses in one surface) (see col. 1, lines 31-40).

With respect to Claims 48 and 73, Gilhart teaches compressing using a mesh screen (see col. 2, lines 5-19), which would necessarily differ the density according to the structure of the mesh screen (during the step of subjecting sections of the insulation material to controlled compaction, the insulation material is compacted to varying degrees, whereby a density within the insulation element varies accordingly; the mineral wool has the non-rectangular cross-sectional profile and areas of different density after being provided with the at least one permanent impression and/or deformation).

With respect to Claim 53, Morrison teaches the curing oven 30's compression conveyor 32 brings down a fibrous glass web 16 to its desired thickness from four inches to two inches (the tunnel furnace has a molding device therein, the molding device reducing a cross section of a gap through which the insulation material is transported within the tunnel furnace and compacting the insulation material as it passes therethrough) (see Morrison, fig. 1 and col. 3, lines 5-35 and 60-70). Gilhart teaches shaping in an oven 30 to interlock the fibers in an imprinted design (the molding

device is configured to provide the at least one permanent impression and/or deformation in the insulation material) (see Gilhart, col. 1, line 55 through col. 2, line 4; figs. 1 and 2).

With respect to Claims 54, 70, and 72, Gilhart teaches reliefs on the material handling means within oven 30 to interlock the fibers in an imprinted design (the molding device is integrated in the conveyor unit within the tunnel furnace, the conveyor unit comprising at least one first molding element to form the at least one permanent impression and/or deformation, during which process, as a result of contact with a molding surface of the at least one first molding element, the insulation material assumes the non-rectangular cross-sectional profile; the molding element has a contoured molding surface; the contoured molding surface comprises grooves and/or projections) (see col. 1, line 55 through col. 2, line 4; figs. 1 and 2).

With respect to Claim 55, Gilhart teaches shaping a mineral wool blanket in an oven 30 by pressing the fibers into compacted condition to interlock the fibers in an imprinted design (the at least one first molding element in configured to contact the insulation material with a pressure contact) (see col. 1, line 55 through col. 2, line 4; figs. 1 and 2).

With respect to Claims 56, 57, and 61, Gilhart teaches shaping a mineral wool blanket in an oven 30 by pressing the fibers into compacted condition to interlock the fibers in an imprinted design on both surfaces (the molding device as at least one second molding element opposite the at least one first molding element; molding device comprises at least two molding elements; conveyor unit or a compacting and guiding

unit, which, together with the conveyor unit, compacts the insulation material or transports it at an upper side) (see col. 1, line 55 through col. 2, line 19; figs. 1 and 2), which are a part of the system of moving the blanket (see fig. 3 and col. 3, lines 26-37), which makes the molding elements attachable principally because they are attached (the first molding element and/or the second molding element are engineered as attachable elements for the conveyor unit or a compacting and guiding unit).

With respect to Claims 62-64, 67, and 68, Morrison teaches that the slats which shape the web are perforated metal slats on a chain (the attachable elements and the conveyor unit are engineered as metal components that have the form of gratings or are provided with ventilation channels; components are made of heat-resistant materials; components are segmented; the molding element of the molding device is engineered as an endless loop; the endless loop includes a plurality of successive segments) (see fig. 2 and col. 3, lines 19-35).

With respect to Claim 58, Morrison teaches that the slats 19 run side-to-side (the molding device further includes at least one lateral molding element) (see col. 3, lines 23-27 and fig. 2).

With respect to Claim 59, Morrison teaches conveyor 18 supporting the glass wool pack through a curing oven 30 where it is brought down to its desired thickness from four inches to two inches by the compression conveyor 32 during curing (the first molding element is formed by a compacting and guiding unit, which together with the conveyor unit, compacts the insulation material or transports it at an upper side) (see fig. 1 and col. 3, lines 5-35 and 60-70).

With respect to Claim 60, Morrison teaches compression conveyor 32 is constructed of connected perforated slats 19 (the compacting and guiding unit comprises a flight belt) (see fig. 1 and col. 3, lines 5-35 and 60-70).

With respect to Claim 69, Gilhart teaches compressing using a mesh screen (see col. 2, lines 5-19), which would necessarily differ the density according to the structure of the mesh screen (the molding element is engineered such that a differing degree of compaction is obtained over a breadth of the molding surface).

With respect to Claim 74, Gilhart teaches compressing using a mesh screen (see col. 2, lines 5-19), which would necessarily differ the height according to the structure of the mesh screen (the mineral wool varies in height over the cross-sectional profile after being provided with the at least one permanent impression and/or deformation).

Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morrison et al. (US Patent No. 2,997,096) in view of Gilhart (US Patent No. 3,045,316) as applied to claim 41 above, and further in view of Collins (US Patent No. 2,288,072).

With respect to Claim 43, Morrison et al. teach a method of curing a fibrous mass as previously described. Morrison teaches a method of making the fibrous mass of mineral material (see col. 9, line 55 through col. 10, line 5). Morrison does not appear to expressly teach that the mineral material is rock wool.

Collins teaches making bonded fibrous products of mineral wool such as glass wool or rock wool (see page 1 of text, left column, lines 1-20).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Collins's rock wool with Morrison's method of making a mineral wool pack in order to provide a product of high temperature stability.

Claim 48, 66, 69, 71, and 73-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Morrison et al. (US Patent No. 2,997,096) in view of Gilhart (US Patent No. 3,045,316) as applied to Claims 41, 53, 54, 56, and 70 above, and further in view of Johnston (US Patent No. 3,077,426).

With respect to Claim 48, 69, 73, and 75, Johnson in view of Gilhart teaches compressing using a mesh screen (see col. 2, lines 5-19), which would necessarily differ the density according to the structure of the mesh screen (during the step of subjecting sections of the insulation material to controlled compaction, the insulation material is compacted to varying degrees, whereby a density within the insulation element varies accordingly; the mineral wool has the non-rectangular cross-sectional profile and areas of different density after being provided with the at least one permanent impression and/or deformation; the molding element is engineered such that a differing degree of compaction is obtained over a breadth of the molding surface; the insulation element has a higher density in thinner areas than in thicker areas after being provided with the at least one permanent impression and/or deformation).

However, if it is held that Gilhart does not teach varying density, Johnston teaches making a glass fiber blanket (see col. 1, lines 9-35) by shaping to form a dense, thin, and strong border (see col. 6, lines 33-66 and fig. 8).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to vary the thickness of a board by varying its density as taught by Johnston in the process of making a fiber panel as taught by Morrison in order to form a panel with strong borders without having a step of sawing or machining (see Johnston col. 6, lines 20-47).

With respect to Claims 66 and 71, Morrison does not appear to expressly teach that the slats 19 include an inclined surface.

However, Johnston teaches making a glass fiber blanket (see col. 1, lines 9-35) by having a mold surface 49 gradually sloping upwards that gradually decreases the thickness toward the edges shaping to form a dense, thin, and strong border (the first and/or second molding element is arranged such that with respect to a conveying plane of the conveyor unit, its molding surface is inclined about a longitudinal transport axis; the contoured molding surface comprises an inclined planar surface) (see col. 6, lines 33-66 and fig. 8).

With respect to Claim 74, Johnson in view of Gilhart teaches compressing using a mesh screen (see col. 2, lines 5-19), which would necessarily differ the height according to the structure of the mesh screen (the mineral wool varies in height over the cross-sectional profile after being provided with the at least one permanent impression and/or deformation).

However, if it is held that Gilhart does not teach varying height, Johnston teaches making a glass fiber blanket (see col. 1, lines 9-35) by shaping to form a dense, thin, and strong border (see col. 6, lines 33-66 and fig. 8).

With respect to Claim 76, Gilhart teaches forming a rectilinear grid on the blanket (the cross-sectional profile of the insulation element displays, in one surface, two parallel recesses in an area of which the density is higher than in very thick areas after being provided with the at least one permanent impression and/or deformation) (see col. 1, lines 31-40).

Claim 65 is rejected under 35 U.S.C. 103(a) as being unpatentable over Morrison et al. (US Patent No. 2,997,096) in view of Gilhart (US Patent No. 3,045,316) as applied to claims 41, 53, 54, 56, and 61 above, and further in view of Davies (US Patent No. 6,176,370 B1).

With respect to Claim 65, Morrison teaches a method of curing a fibrous mass as previously described. Morrison teaches slats 19 on conveyor 18 and compression conveyor 32 via roller chains 20 during curing (see figs. 1 and 2 and col. 3, lines 5-35 and 60-70).

However, Morrison does not appear to expressly teach the attachment of the slats 19 as quick release.

Davies teaches slats that are quick release (see title and abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to select Davies's quick release slats as the slats in Morrison's conveyors in order to facilitate maintenance processes (see Davies, col. 1, lines 36-60).

Response to Arguments

Applicant's arguments filed 18 June 2009 have been fully considered but they are not persuasive.

Applicant argues with respect to the 35 USC § 103(a) rejections. Applicant's arguments appear to be on the grounds that:

1) It would not have been obvious to one of ordinary skill in the art at the time the invention was made to combine Morrison and Eriksson because they are non-analogous. Eriksson does not relate to mineral wool and insulation, and Eriksson uses steam rather than a furnace. Technologies applicable to MDF like milling or sawing are not applicable to shaping mineral wool.

2) Eriksson fails to teach the newly claimed limitation of entering the tunnel furnace having a rectangular cross-sectional profile.

The Applicant's arguments are addressed as follows:

1 and 2) Applicant's arguments with respect to the rejection over Eriksson et al. (International Publication Number WO 00/44540) and the newly added limitation of entering the tunnel furnace having a rectangular cross-sectional profile have been considered but are moot in view of the new ground(s) of rejection, which include Gilhart (US Patent No. 3,045,316).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is (571) 272-8517. The examiner can normally be reached on Mon.-Thu. 7:30 a.m.-5 p.m. and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. B./
Examiner, Art Unit 1791

/Christina Johnson/
Supervisory Patent Examiner, Art Unit 1791